

North Carolina's Response to the U.S. Environmental Protection Agency's Risk Mitigation Measures for Soil Fumigants

Overview – Re-registration Eligibility Decisions (REDs)

- EPA routinely reviews pesticide registration packages to verify compliance with current guidelines
- The following fumigants were reviewed as a cluster but separate REDs were issued:
 - Methyl Bromide
 - Chloropicrin
 - Metam Sodium/Metam Potassium
 - Dazomet

Overview – Toxicity

Fumigant	Health Effects	Regulatory Basis
Metam Sodium	Liquid formulation that rapidly converts to MITC; causes eye irritation and respiratory problems	Human eye irritation study
Chloropicrin	Eye, nose, throat, and upper respiratory irritation	Human eye irritation study
Methyl Bromide	General neurotoxic & developmental effects; depletion of ozone layer	Rabbit Developmental Study

EPA Concerns and REDs

Concerns

- Current use practices and product labels were not providing workers and bystanders with adequate protection to prevent inadvertent exposure to fumes
- Need to ensure a level playing field across all soil fumigants and geographical regions

REDs

- Regulatory decisions issued July 2008 with additional public comment on implementations aspects
- Widespread feedback that risk mitigation measures (RMMs) were excessive
- Final amended decisions in June 2009 with revised labels effective December 31, 2010
- Risk Mitigation Measures implemented in two phases – 2011 and 2012

Fumigant Mitigation Summary

Phase 1: 2010 Labels – 2011 Implementation

- Restricted use classification
- Re-entry restrictions
- Safety information for handlers
- Mandatory good agricultural practices (GAPs)
- Fumigant Management Plans
- Handler respiratory protection**

Phase 2:

- Buffers and buffer posting
- Buffer zone monitoring and/or neighbor notification
- Restrictions near difficult to evacuate sites
- Registrant-provided training for applicators and community outreach programs



Handler Respiratory Protection

- New labels require handlers to stop work or use respirators if air concentrations exceed acceptable limits. For most activities, sensory detection triggers respiratory protection requirements or handlers have to cease work and leave application block
- At least 1-2 handlers (depending on product) must have air-purifying respirator available and have been fit-tested, trained, and medically cleared for respirator use
- At least 1 self contained-breathing apparatus must be on site and ready for emergency use for Methyl Bromide and Chloropicrin

Soil Fumigant Use in North Carolina

The NC Department of Agriculture, Pesticides Section – Structural Pest Control & Pesticides Division estimates that there are at least 2200 farms in the state that use soil fumigants in the production of tobacco, peanuts, bell peppers, squash, watermelons, strawberries, tobacco, peanuts, cotton, sweet potatoes, and tomatoes

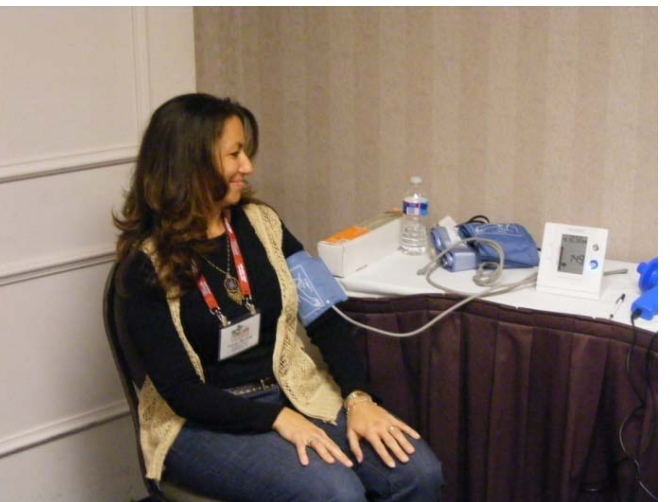


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Risk Mitigation Measures Project

- At the request of the NC Strawberry Growers Association (NCSGA), the NC Agromedicine Institute ('the Institute') formed a Soil Fumigant workgroup to plan and coordinate education, outreach, and occupational health services for NC growers to help them comply with new risk mitigation measures
- In addition to the NCSGA and Institute, workgroup members include representatives from the NC Department of Agriculture - Pesticides Section, NC State University – Departments of Plant Pathology & Horticulture, NC Division of Public Health, NC Farmworkers Program, AgriSafe of CommWell Health and the EI group (a private occupational health company)
- With input and support from workgroup members, the Institute was successful in obtaining a grant from the NC Tobacco Trust Fund Commission to support the workgroup's efforts
- Funds include 50:50 cost share to assist growers with cost of obtaining medical clearance (including blood pressure and spirometry), fit testing, respirators, and cartridges

Outcomes



- Training on risk mitigation measures provided for more than 1,000 individuals at field days, commodity meetings, and Cooperative Extension events
- Fit testing and medical clearance provided for >400 farmers with technical assistance provided to other agencies/occupational health care providers providing services for >500 additional individuals
- Services provided in locations easily accessible to growers (i.e., farm, Cooperative Extension, farmers market, chemical company, Farm Bureau office)
- State contract rate negotiated for purchase of respirators and cartridges resulting in additional cost savings for farmers
- Increased collaboration among Institute and community partners including farmers, chemical companies, Cooperative Extension, other occupational health providers and personal protective equipment manufacturers both in North Carolina and in surrounding states
- Farmers with undiagnosed hypertension identified and receiving needed follow-up care

Challenges

- Farmers have used soil fumigants for years without respiratory protection
- Farmers unfamiliar with respirators, fit testing, and medical clearance procedures; may or may not be willing to shave to ensure proper fit
- Limited amount of time to comply with risk mitigation measures from label release (12.31.10) until soil preparation/planting (mid-March)
- Limited occupational health services in rural areas; services geared to general industry, not agriculture
- Use of self contained breathing apparatus by individuals who have not received proper medical clearance, fit testing, or training

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